

PITHLACHASCOTEE RIVER, FLA.

LETTER

FROM

THE SECRETARY OF WAR

TRANSMITTING

A LETTER FROM THE CHIEF OF ENGINEERS, UNITED STATES ARMY, DATED DECEMBER 17, 1940, SUBMITTING A REPORT, TOGETHER WITH ACCOMPANYING PAPERS AND AN ILLUSTRATION, ON A PRELIMINARY EXAMINATION AND SURVEY OF PITHLACHASCOTEE RIVER, FLA., AUTHORIZED BY THE RIVER AND HARBOR ACT APPROVED JUNE 20, 1938

FEBRUARY 13, 1941.—Referred to the Committee on Rivers and Harbors, and ordered to be printed with an illustration

WAR DEPARTMENT,
Washington, February 8, 1941.

THE SPEAKER OF THE HOUSE OF REPRESENTATIVES.

DEAR MR. SPEAKER: I am transmitting herewith a report dated December 17, 1940, from the Chief of Engineers, United States Army, on preliminary examination and survey of Pithlachascotee River, Fla., authorized by the River and Harbor Act approved June 20, 1938, together with accompanying papers and illustration.

The Bureau of the Budget has been consulted and advises that authorization of the project recommended by the Chief of Engineers would not be in accord with the program of the President at this time.

Sincerely yours,

HENRY L. STIMSON,
Secretary of War.

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, December 17, 1940.

Subject: Pithlachascotee River, Fla.

To: The Secretary of War.

1. I submit for transmission to Congress my report with accompanying papers and illustration on preliminary examination and survey of Pithlachascotee River, Fla., authorized by the River and Harbor Act approved June 20, 1938.

2. The Pithlachascotee River flows from an area of swamps and ponds to enter the Gulf of Mexico at a point $7\frac{1}{2}$ miles north of the mouth of the Anclote River and 57 miles north of the entrance to Tampa Bay. It is navigable and tidal to a point 6 miles above the mouth. The controlling depth over the entrance, which is 2 miles from the 6-foot depth in the Gulf, is 1.7 feet. In a report transmitted to Congress on June 22, 1939 (H. Doc. No. 371, 76th Cong. 1st sess.), it is pointed out that in the section of the proposed Intracoastal Waterway north of Anclote River to St. Marks small boat and barge traffic may safely navigate the Gulf along a route following the 12-foot depth contour, provided it is properly marked and suitable harbors of refuge are constructed and maintained. From the mouth of the Pithlachascotee River for a distance of 1.2 miles to a highway bridge at Port Richey, widths vary from 300 to 1,400 feet with a controlling depth of 2 feet, and for 2 miles above the bridge widths vary from 100 to 300 feet with depths of from 4 to 15 feet. The mean range of tide at the mouth is 2.1 feet. No improvement of the river has been authorized by Congress. Local interests are reported to have expended \$3,200 in blasting a narrow channel and removing boulders near the mouth and \$100,000 in constructing 15,000 feet of rock river wall. They now request that a channel 60 feet wide and 6 feet deep be provided from that depth in the Gulf to the highway bridge 1.2 miles above the mouth. They claim that this will provide a harbor of refuge for small craft operating between Anclote River and St. Marks, reduce transportation costs on products transshipped through Tampa, result in additional small craft using the waterway, and reduce groundings and damages to boats. They offer to provide the necessary terminal or channel facilities, to improve and maintain the river channel upstream from the lower bridge, make the necessary bridge alterations, and furnish, free of cost to the United States, the necessary lands and rights-of-way for spoil-disposal areas.

3. The permanent population of the tributary area is 81,400, greatly increased during the winter tourist season and engaged principally in catering to the tourist trade, agriculture, stock raising, fishing, mining and quarrying of rock, and timber pursuits. There are large stands of merchantable cypress timber and deposits of limestone within the area. Productive sponge beds lie in the Gulf north of the mouth of Pithlachascotee River and 5 "hooker" sponge boats base at Port Richey. The principal products are citrus fruit, truck and field products, lumber, crushed stone, and guano. Present annual commerce on the river amounts to about 470 tons, composed principally of guano, sponges, and fish. Sport fishing and recreational boating attract many winter visitors to the Pithlachascotee River. Customs records show that over 500 recreational craft and 50 charter

or excursion boats were registered for the area for 1938, and it is reported that motor vessels, barges, recreational craft, and skiffs drawing up to 3 feet, made 5,490 round trips over the waterway.

4. The division engineer finds the most suitable plan of improvement to be to dredge a turning basis 6 feet deep, 200 feet wide maximum, and 730 feet long immediately downstream from the first highway bridge at Port Richey, with a channel of the same depth and 100 feet wide, the minimum width deemed necessary for general navigation, downstream to the entrance of the river and thence along a circuitous route where the least amount of rock would be encountered, to the 6-foot depth in the Gulf of Mexico. He estimates the initial cost of this improvement at \$50,400 with \$5,000 for installing aids to navigation, and annual maintenance of \$2,000. The total Federal annual carrying charges are estimated at \$4,362. The initial cost to local interests for terminal and channel improvements and bridge alterations is estimated at \$80,000 with annual carrying charges of \$5,595. He estimates the annual tangible general benefits from reduced costs of transporting by water that part of the local production of veneer blocks, crushed limestone, and guano, which he believes would move over an improved channel, and from reduction in damage to vessels now suffered in the shallow channel, at \$5,465. The increase in the catch of fish and sponges that would follow the reduction in loss of time awaiting favorable tides, the reduction in the cost of operation of charter boats, and the increased business with the additional recreational craft that would seek an improved harbor would result in local benefits estimated at \$5,062. He notes that in addition local intangible benefits will accrue in enhancement of property values and in increased business activity. He points out that due to the general absence of protected waterways numerous small craft move along the coast in the open Gulf and are exposed to sudden storms and that as no harbor of refuge is now available in the 40-mile stretch between Anclote Anchorage and Homosassa River the proposed improvement will provide a required haven in the area. The division engineer concludes that the improvement is economically justified and he recommends it, subject to certain conditions of local cooperation.

5. The Board of Engineers for Rivers and Harbors concurs in the view that the improvement will provide a needed harbor of refuge in the vicinity and will produce sufficient general benefits to justify participation by the United States. The Board recommends the improvement, subject to certain provisions of local cooperation.

6. After due consideration of these reports, I concur in the views and recommendations of the Board. The improvement will produce sufficient general benefits to justify participation by the United States. It will provide one of the needed harbors of refuge for small vessels in the section of the coast between the Anclote and Homosassa Rivers. I therefore recommend the improvement of Pithlachascotee River, Fla., to provide a channel 6 feet deep and 100 feet wide from the 6-foot depth in the Gulf of Mexico, following a line requiring the least rock excavation, to and including a basin 6 feet deep, 200 feet in maximum width, and 730 feet long, immediately downstream from the highway bridge at Port Richey, Fla., a total length of 3.2 miles, all substantially as shown on the accompanying map, at an estimated first cost of \$51,000, with \$2,000 annually for maintenance; subject to the condi-

tions that local interests provide, maintain, and operate terminals adequate to full utilization of the improvement, open to all on equal and reasonable terms; maintain a satisfactory channel immediately upstream from the first highway bridge; make at their expense alterations to this bridge as may be necessary to adapt it to navigation needs; furnish free of cost to the United States all lands and spoil-disposal areas necessary for the initial work and subsequent maintenance when and as required; and hold and save the United States free from all claims for damages resulting from the improvement.

J. L. SCHLEY,
*Major General,
Chief of Engineers.*

REPORT OF THE BOARD OF ENGINEERS FOR RIVERS AND
HARBORS

[Second endorsement]

BOARD OF ENGINEERS FOR RIVERS AND HARBORS,
Washington, D. C., October 28, 1940.

To the CHIEF OF ENGINEERS, UNITED STATES ARMY.

The Board has carefully considered the report of the division engineer and concurs in the view that the improvement will provide a needed harbor of refuge for small craft following the route of the Intracoastal Waterway through the open waters of the Gulf of Mexico, and will produce sufficient general benefits to justify participation by the United States. Local benefit is sufficient to warrant a requirement of substantial local cooperation in the project. The Board therefore recommends the improvement of Pithlachascotee River, Fla., to provide a channel 6 feet deep and 100 feet wide from the 6-foot depth in the Gulf of Mexico, following a line requiring the least rock excavation, to and including a basin 6 feet deep, 200 feet in maximum width, and 730 feet long, immediately downstream from the highway bridge at Port Richey, Fla., a total length of 3.2 miles, all substantially as shown on the accompanying map, at an estimated first cost of \$51,000, with \$2,000 annually for maintenance; subject to the conditions that local interests provide, maintain, and operate terminals adequate to full utilization of the improvement, open to all on equal and reasonable terms; maintain a satisfactory channel immediately upstream from the first highway bridge; make at their expense alterations to this bridge as may be necessary to adapt it to navigation needs; furnish free of cost to the United States all lands and spoil-disposal areas necessary for the initial work and subsequent maintenance when and as required; and hold and save the United States free from all claims for damages resulting from the improvement.

For the Board:

THOMAS M. ROBINS,
*Brigadier General, Corps of Engineers,
Senior Member.*

SURVEY OF PITHLACHASCOTEE RIVER, FLA.

SYLLABUS

Local interests in Pasco County, Fla., request that the Federal Government dredge a channel 6 feet deep at mean low tide and 60 feet wide from the 6-foot contour in the Gulf of Mexico to the first highway bridge, 1.2 miles above the mouth of the Pithlachascotee River.

Such a channel would carry considerable quantities of veneer blocks, crushed limestone, and guano. It would also serve as a base of operation for commercial and sport fishing in this area and as a port of call and harbor of refuge for the section of the Intracoastal Waterway between Tarpon Springs and St. Marks.

The division engineer finds that a channel width of 60 feet would be insufficient for safe navigation, and that the estimated benefits from the improvement are sufficient to justify the provision of a channel 100 feet wide and 6 feet deep at mean low tide from the 6-foot contour in the Gulf of Mexico to the first highway bridge, 1.2 miles above the mouth of the river, a distance of approximately 3.2 miles, with a turning basin of the same depth 200 feet wide and 730 feet long. He recommends that this improvement be provided by the United States, subject to certain conditions of local cooperation.

WAR DEPARTMENT,
OFFICE OF THE DIVISION ENGINEER,
SOUTH ATLANTIC DIVISION,
Richmond, Va., August 7, 1940.

Subject: Survey of Pithlachascotee River, Fla.
To: The Chief of Engineers, United States Army.

AUTHORITY

1. This report is submitted in compliance with an item in the River and Harbor Act approved June 20, 1938, which provides for a preliminary examination and survey of Pithlachascotee River, Fla. Preliminary examination reports were submitted by the district engineer on May 23, 1939, and by the division engineer on July 7, 1939. The reports were reviewed by the Board of Engineers for Rivers and Harbors on July 20, 1939, and a survey was ordered to determine a plan of improvement and the cost thereof.

DESCRIPTION

2. Pithlachascotee River (shown on U. S. Coast and Geodetic Survey chart as Pithlochascotee River and known locally as Cotee River) has its source in several cypress swamps and ponds about 12 miles from the west coast of Florida. It flows first in a general southwesterly and then in a northwesterly direction through Pasco County, emptying into the Gulf of Mexico about 7.5 miles north of the mouth of Anclote River and 57 miles north of the entrance to Tampa Bay.

3. The drainage area, containing about 50 square miles, is narrow due to the proximity of other streams, and does not extend more than 2 or 3 miles on either side of the river. Except at its source, the lands adjacent to the river are generally high and densely wooded with a growth of palmetto and oaks. The lower reaches are protected by rock sea walls. The total length of the stream is about 18 miles. Only the lower 6 miles are considered navigable, the upper portion being narrow, crooked, and blocked by fallen trees and driftwood. The navigable portion of the river is tidal, the mean range of tide at

the mouth being 2.1 feet and the spring range about 3 feet. Strong southwesterly winds raise the water level about 1 foot; strong northerly winds lower the water level about 1½ feet. Tidal currents in the mouth are reported to attain a maximum velocity of about 3 miles per hour. The existing controlling depth on the bar at the mouth is about 1.7 feet and it is about 2 miles offshore to the 6-foot contour in the Gulf.

4. Within the river such craft as are able to enter are well protected from all winds. From its mouth to the first highway bridge at Port Richey, a distance of 1.2 miles, the river varies in width from about 300 to 1,400 feet, and is obstructed by a series of oyster bars, bare at low tide, between which meanders a channel with a controlling depth of about 2 feet. From the first highway bridge to the town of New Port Richey, a distance of about 2 miles, the river varies in width from 100 to 300 feet with depths of from 4 to 15 feet.

5. Existing harbors and channels and the depth of each between St. Marks and Sarasota are as follows:

Harbors:	Depth in feet
Steinhatchee River.....	6
Suwannee River.....	5
Cedar Keys.....	10. 5
Withlacoochee River.....	10
Crystal River.....	6
Homosassa River.....	5
Anclote River.....	9
Channel from Clearwater Harbor through Boca Ciega Bay to Blind Pass.....	5
Thence to Tampa Bay.....	7-8
Tampa Harbor.....	30
St. Petersburg Harbor.....	19
Sarasota Bay to Sarasota.....	7
Manatee River to Manatee.....	9

Anclote River is the harbor nearest to Pithlachascotee River. Tarpon Springs, a safe harbor in Anclote River, is about 11 miles from the mouth of Pithlachascotee River via a water route having a depth of not less than 7 feet. The distance between Anclote River and Homosassa River is about 40 miles.

6. In general, the water offshore between Anclote River and St. Marks increases in depth at the rate of approximately 1 foot per mile to deep water in the Gulf. Waves coming in from the Gulf are gradually dissipated as they approach the shore. As a result pleasure craft, commercial craft, and barges can safely operate along a route following approximately the minus 12-foot contour except in stormy weather blowing from the Gulf, provided adequate harbors of refuge are maintained.

7. The general features of the locality are shown on United States Coast and Geodetic Survey chart No. 178 and on the accompanying map.

8. A report recently submitted by the Chief of Engineers and transmitted to Congress by the Secretary of War (H. Doc. No. 371, 76th Cong., 1st sess.) recommends construction of the Intracoastal Waterway from Caloosahatchee River to Anclote River, Fla., to provide a waterway 9 feet deep and 100 feet wide. A report is now being prepared by the district engineer to determine whether it is advisable at this time to extend the Intracoastal Waterway from the Anclote River to St. Marks, Fla., and to construct a barge canal extending from the waterway at the mouth of Withlacoochee River across the

State of Florida to St. Johns River and down the latter to the Atlantic Intracoastal Waterway.

TRIBUTARY AREA

9. The local area immediately tributary to the proposed improvement includes Pasco County and the area of the Gulf of Mexico offshore therefrom used for fishing. On account of the excellent sport fishing in these waters the proposed improvement would be used by a considerable number of the permanent population and by tourists residing in Hernando, Pasco, and Pinellas Counties to whom the proposed channel would be readily accessible by automobile. The local area is principally cut-over timberlands interspersed with farms and open prairies; it is gently rolling, with elevations of 10 to 30 feet near the coast rising to 200 to 250 feet along a chain of hills extending through the center of Hernando County into Pasco County. Considerable stands of timber remain and most of the lands are well suited to culture of citrus fruit, truck and field crops. The average annual rainfall is about 55 inches; the average annual temperature is about 70° F., with an annual temperature range of about 60° F.

10. During the winter months, the tourist trade is the greatest source of income of the area. During the entire year, trade and commerce of the area are largely agricultural, but are influenced by forestry, mining, commercial fishing, and cattle raising. Productions of these industries generally exceed the amounts used in the area while most of the manufactured or processed goods are brought in from other localities.

11. The permanent populations of the counties of this area and of their more important cities for the past 20 years, according to State and Federal census, are given in the following table:

TABLE I.—*Permanent population of the tributary area and the principal cities thereof, 1915-35, inclusive*

	1915	1920	1925	1930	1935
Pasco County.....	9, 634	8, 802	11, 599	10, 574	11, 266
Dade City.....	1, 631	1, 260	1, 724	1, 748	1, 718
Lacoochee.....					1, 000
Zephyrhills.....	1, 450	577	861	748	938
New Port Richey.....		550	862	758	830
Port Richey.....					150
Hernando County.....	6, 291	4, 548	4, 723	4, 948	5, 522
Brooksville.....	1, 385	1, 011	1, 745	1, 405	1, 547
Pinellas County.....	18, 814	28, 265	51, 714	62, 149	64, 638
St. Petersburg.....	1, 186	14, 237	26, 847	40, 425	40, 856
Clearwater.....	1, 932	2, 247	5, 004	7, 607	9, 044
Tarpon Springs.....	1, 938	2, 105	2, 685	3, 414	3, 520
Dunedin.....	429	642	1, 342	1, 435	1, 570
Totals for counties.....	34, 739	41, 615	68, 036	77, 671	81, 426

The permanent population of the three counties, as given by the State census of 1935, is 81,426 while that of the cities is 61,023, leaving for the rural population 20,403 or 25 percent of the total population of the area.

12. New Port Richey is the largest community on the coast between Tarpon Springs and Suwannee River. It is located on the right bank of the Pithlachascotee River about 2½ miles above the mouth. Between New Port Richey and the mouth of the river is the original settlement of Port Richey; New Port Richey is directly connected

with the net of improved highways throughout Florida; a branch of the Seaboard Air Line Railway, furnishing triweekly service, terminates there. The distances by rail from New Port Richey to Clearwater, St. Petersburg, and Tampa are 44, 65, and 40 miles respectively; by highway 20, 38, and 34 miles, respectively, and by water 33, 70, and 90 miles, respectively.

13. It is estimated that the present permanent populations of New Port Richey and Port Richey are 1,500 and 400, respectively. This estimate is based on observation and the increase in the number of utility consumers. The winter population is approximately double the permanent population. Many of these winter residents are persons of considerable means, with fine homes along the banks of the river, who could and would have pleasure craft of various types if the entrance to the river were given a sufficient depth for their safe passage at all times.

14. The agricultural and timber resources of the local area are summarized in the following table:

TABLE II.—*Agricultural and timber resources of the local tributary area*

	County			
	Pasco	Hernando	Pinellas	Total
Total area, acres.....	490,880	318,080	149,780	958,740
Area in farms, acres.....	82,174	22,237	31,310	135,721
Area in field and truck crops, acres.....	9,246	4,830	259	10,810
Area in citrus groves, acres.....	7,080	2,903	16,760	26,743
Percent of total area under cultivation.....	2.6	2.4	1.4	2.5
Area in merchantable timber, acres.....	66,260	7,970	45,320	119,500
Approximate production of truck and field crops, tons.....	13,246	11,790	926	25,962
Approximate production of citrus fruits, tons.....	42,500	10,234	93,020	145,754
Stock cattle, head.....	19,903	5,356	4,466	29,725
Turpentine, barrels.....	11,280	800	(?)	2,080
Rosin, barrels.....	14,300	2,300	(?)	6,300

¹ Estimated.

² None reported.

The area of merchantable timber includes a large tract of cypress, reported to contain from 40 to 60 million board feet of lumber, located near the source of the Pithlachascotee River. This lumber is not being marketed at present. In the western part of Pasco County three sawmills produce a total of about 1,000,000 board feet of pine lumber annually, and logging operations produce about 200 carloads of veneer blocks annually, which are shipped to Manatee by rail for the manufacture of crates.

15. Manufacturing is an important source of income in the tributary area. The number of manufacturing establishments, average number of persons employed, and the value of their products as obtained from "Report of manufacturing in Florida 1937," are shown in table III which follows:

TABLE III.—*Manufactures of the local tributary area*

County	Number of establishments	Average number of persons employed	Value of products
Pasco.....	26	476	\$456,100
Hernando.....	16	173	243,475
Pinellas.....	372	1,190	2,260,788
Total.....	414	1,839	2,960,363

16. Extensive stone deposits have been found in the local area. The L. F. Fernald Stone Co. at Tarpon Springs owns a tract of 490 acres just west of New Port Richey with a potential yield in excess of 8,000,000 tons. The Werner Rock Co. owns 80 acres in this area with the deposit reported to be at least 50 feet thick and fairly uniform over the entire area. The M. O. Johnson Stone Co. of New Port Richey has recently purchased 6,145 acres of land lying along the Gulf coast just north of the mouth of the Pithlachascotee River. Large deposits of limestone outcrop at Cedar Island about 6 miles north of the entrance to the Pithlachascotee River, and near Hudson, 9 miles north. These deposits are apparently part of the Tampa limestone, and it is believed that the major portion of western Pasco County is underlaid with this stratum, forming a practically unlimited supply. The rock has been described by a geologist as being one of the purest limestones yet reported in Florida.

17. There are three rock-crushing plants with a combined capacity of 100,000 tons per annum located on the railroad and the river in the vicinity of New Port Richey. At present only two of these plants are in operation, producing about 7,000 tons of crushed stone per annum. The Johnson Stone Co. has recently installed a crushing plant with a capacity of 20,000 tons per annum at Hudson. That the present production of crushed rock in the area is so limited is due, it is claimed, to lack of water transportation facilities.

18. It is estimated that 40 men are employed in Port Richey gathering and marketing guano. The guano is obtained from bird "racks" erected in shoal waters along the coast where sea birds are numerous. These racks consist of elevated platforms provided with rails above the floor upon which sea birds roost, the guano collecting on the platform below. There are about 12 racks from which guano is collected regularly; it is accumulated in dry storage until sufficient quantities are obtained for shipment by truck to fertilizer manufacturing plants in Tampa. As the river is very shoal, the cargo must either wait outside until favorable tide permits passage upstream to storage depots or be transferred to smaller craft for transportation to storage depots. During 1938, about 300 tons of guano, valued at \$12,300, was brought into Port Richey.

19. The fishing industry employs about 30 men from Port Richey and New Port Richey; the annual catch is estimated to average about 320,000 pounds, mostly mullet, with a gross value of \$20,000. The more valuable food fish (mackerel and grouper) caught in deep water are not brought into the river due to insufficient depth to permit passage of larger boats which can operate in offshore waters.

20. Local interests point out that practically all of the more productive sponge beds are north of the mouth of the Pithlachascotee River and, therefore, nearer to Port Richey than to Tarpon Springs, which is at present the principal sponge market of the United States. They think that if the requested channel were provided many sponge boats now basing at Tarpon Springs would transfer their base to Port Richey, which would result in savings to the spongers due to reduced running time between the base port and the sponge beds. Sponges are taken in two ways: In water up to 30 feet deep they are grappled from small boats with special "hooks" or tongs, and in deeper water up to 150 feet or more they are gathered from larger

boats by divers using regulation diving dress. The "hooker" boats draw from 3 to 5 feet and do not go over 20 miles from shore. They are operated by individuals who bring their catches to the most convenient place for shipment in much the same manner as the commercial fishermen. Five "hooker" sponge boats base at Port Richey and employ about 16 men. The gross value of sponges gathered by these boats is reported to be about \$16,000 annually.

21. Among the more important businesses of the area is that of catering to winter residents and tourists. The population is approximately doubled during the winter months and the activities for health and recreation connected with this movement influence to a great extent the entire atmosphere of the area. Chief among these, from a waterways standpoint, are sport fishing and pleasure boating. Customs records show that 507 pleasure boats and about 50 charter or excursion boats were registered in the area at the beginning of the year and it is estimated that 750 pleasure boats visited the area during 1938. The expenditures for purchase and maintenance of these craft, for fuel and supplies, for pay of crews, and for hire of charter boats contribute in considerable measure to the welfare of the area.

22. Insufficient local production of agricultural products, staple foodstuffs, and manufactured and processed goods requires their importation from other parts of Florida and the United States. Reports from the State Department of Agriculture show that 4,680 tons of fertilizer were shipped into Pasco County in 1 year, September 1, 1938, to August 31, 1939. It is estimated that about 8,000 tons of gasoline and kerosene are shipped to Pasco County annually.

BRIDGES

23. The following table gives the location and description of bridges spanning the river.

TABLE IV.—*Bridges*

Distance above mouth of river	Name	Owner	Type	Clearance (feet)		Authorized permit
				Horizontal	Vertical	
1.2 miles -----	Highway----	Pasco County-----	Single leaf bascule--	20	10	No
3.2 miles -----	do-----	do-----	Fixed-----	40	7	Yes
3.9 miles -----	Railway----	Seaboard Ry-----	do-----	15	9	No
4.1 miles -----	Highway----	Pasco County-----	do-----	90	8	No

24. None of these bridges span that portion of the waterway herein considered. However, it is considered that if the desired improvement is provided, the highway bridge 1.2 miles above the mouth will require alteration to provide full access to the upper reaches of the river. There are no artificial obstructions to navigation other than the bridges listed above.

PRIOR REPORTS

25. Prior reports on the waterway are shown in the following table:

TABLE V.—*Prior reports*

Title	Preliminary examination		Congressional document			
	Date	Recommendation	House or Senate	No.	Congress	Session
Pithlachascotee River, Fla.-----	Aug. 11, 1911	Unfavorable--	House-----	429	62	2
Review of previous report, Pithlachascotee River, Fla.-----	Dec. 5, 1912	do-----	do-----	11	62	3
Pithlachascotee River, Fla.-----	Apr. 12, 1918	do-----	do-----	1,224	65	2
Do-----	Dec. 14, 1931	do-----	-----	(1)	-----	-----
Review of previous report, Pithlachascotee River, Fla.-----	Feb. 16, 1936	do-----	-----	(1)	-----	-----
Pithlachascotee River, Fla.-----	Dec. 7, 1937	do-----	-----	(1)	-----	-----

¹ Not printed.

EXISTING PROJECT

26. None.

LOCAL COOPERATION

27. None.

OTHER IMPROVEMENTS

28. About 13 years ago local interests raised by popular subscription about \$3,000 which was expended in blasting a narrow channel about 4 feet deep through the worst shell banks near the mouth of the river and through bars at the entrance. The channel so created was blasted across oyster bars instead of following the natural channel resulting from current action, and it filled so rapidly that the work has not improved the navigability of the waterway. During July and August 1934, \$200 was expended in removing some of the most obstructive boulders in the channel near the mouth of the river and through the bar at the entrance. This work is reported to have resulted in increasing the depths at the shallowest places by about 6 inches.

29. In addition to the improvement described in the preceding paragraph, local interests have improved the lower reaches of the river between New Port Richey and Port Richey by constructing approximately 15,000 feet of rock sea wall or bulkheads at a cost of approximately \$100,000.

TERMINAL AND TRANSFER FACILITIES

30. Terminal facilities are limited to the comparatively small wharves necessary to accommodate shallow-draft boats which are able to enter the river at present. The city of New Port Richey owns two small wharves with a total docking space of about 100 feet which are open to the general public. There are at Port Richey one wharf with facilities for fueling launches, a small marine railway, and a wharf with derrick boom for unloading guano. These wharves have highway connections only. In addition, there are numerous private wharves located along the river banks. There is ample space for such additional terminals as may be required.

IMPROVEMENT DESIRED

31. Local interests desire that the Federal Government dredge a channel 6 feet deep, at mean low water, and 60 feet wide from the 6-foot contour in the Gulf of Mexico to the first highway bridge, 1.2 miles above the mouth. This request was made by Mr. Hugh S. Osborne, representing the city of New Port Richey, Port Richey, Dade City, New Port Richey Chamber of Commerce, and Junior Chamber of Commerce, and by Mr. L. C. Poole, representing the Pasco County Board of County Commissioners.

32. A public hearing was held by the district engineer at New Port Richey on March 3, 1939. About 70 persons attended, including representatives of Pasco County, New Port Richey, Port Richey, Dade City, Tarpon Springs civic organizations, interested business concerns, and individual property and boat owners.

33. Local interests base their justification of the proposed improvement upon the following claims:

(1) That it would provide a harbor of refuge and port of call for boats and barges operating in the Gulf of Mexico between Anclote River and St. Marks.

(2) That it would reduce the cost of transporting many products of the area to Tampa for reshipment thence to outside markets, and of distributing numerous commodities from wholesale storage at Tampa to the area.

(3) That it would facilitate and foster the commercial fishing industry of the area by allowing use of the larger boats necessary for off-shore operations.

(4) That it would retain for Pasco County a large percentage of the tourists who now go elsewhere for salt-water fishing by permitting operation of party boats on schedule regardless of tidal stages.

(5) That it would result in additional private boats utilizing the waterway.

(6) That it would reduce groundings and resulting damages to boats.

34. Local interests offer: (1) to expend \$2,750, or double that amount if necessary, toward providing terminal or channel improvements as required by the United States; (2) improve and maintain the river channel upstream from the first bridge above the mouth (upper end of proposed improvement); (3) make such alterations as may be required in that bridge; and (4) furnish free of cost to the United States the necessary lands for rights-of-way and spoil areas.

COMMERCE

35. Available information indicates that the commodities transported in the past over the Pithlachascotee River have been carried in comparatively small quantities and that the volume of commerce has not changed greatly in the past few years. Proponents of the improvement claim that this condition is due to the fact that additional tonnage cannot be economically transported over the waterway with the present limited depth.

36. The present annual water-borne commerce of the river consists of the movement of about 10 tons of sponges having a gross value of about \$16,000, 300 tons of guano valued at \$12,300, and 160 tons of fish valued at \$20,000. Local interests believe that, if the desired

improvement were provided, commerce over the waterway would be considerably augmented, especially if the proposed intracoastal waterway along the west coast of Florida should be completed.

BENEFITS

37. Estimates of the benefits which may reasonably be expected if the improvement is provided are given in the following paragraphs.

38. *Citrus*.—Citrus produced locally is largely packed in local packing houses and shipped thence by rail to northern markets. Only fruit destined for shipment by water from Tampa Harbor is now trucked from the area to Tampa at a cost of \$0.05 per box, or \$1.11 per ton. Proponents of the improvement requested believe that such citrus would move by barge instead of truck at a probable rate of \$0.89 per ton for a capacity barge load—a saving of \$0.22 per ton. However, only about 7 percent of the fruit produced in the Tampa area is shipped by water from Tampa Harbor, compared with about 25 percent shipped by water from the entire State. There would thus hardly be enough local fruit to insure full loads and continuous service for barges of economical size, and the disparity in truck and barge distances between New Port Richey and Tampa (par. 12) would further militate against such movement. It seems improbable that such barge movement of citrus would develop under any circumstances. This conclusion is confirmed by the fact that Pinellas and Manatee Counties barge no citrus fruit to shipside, although both produce large crops of citrus and both border Tampa Harbor and are directly connected with the citrus shipping terminals on the Tampa water front by channels of adequate depth for barges.

39. *Fertilizer*.—Reports from the State Department of Agriculture show that about 4,500 tons of fertilizer are consumed annually in the area. The rail rate on fertilizer from Tampa to New Port Richey is \$1.71 per ton. The barge rate from Tampa would be about \$1.35 per ton, a saving of about \$0.36 per ton. However, fertilizers must be kept dry, and inclosed barges would be required; it is doubtful whether enough of the commodity would move to justify the specialized equipment required. Truck or rail transportation would, presumably, continue to be more satisfactory for the amounts consumed and development of any considerable movement by barge is unlikely. As in the case of citrus fruit, this conclusion is confirmed by the fact that, despite adequate depths and much less disparity between water and truck distances, no fertilizers are barged from Tampa to Pinellas or Manatee Counties.

40. *Gasoline and kerosene*.—About 8,000 tons of gasoline and kerosene are shipped annually by rail and truck to Pasco County. Of this amount it is estimated that about 500 tons are consumed in localities which would permit handling by water. The present rail rate from Tampa to New Port Richey is \$1 per ton and the barge rate would be about \$0.80 per ton, a saving of \$0.20 per ton. The water delivery of petroleum products requires special tankers or tank barges, equipped with pumps to deliver the fuels to the storage tanks. It also requires either tanks sufficiently large to hold an entire barge load, or tanks at a series of stops not too far apart whose aggregate capacity will care for the load. For this reason, petroleum products received primarily in large tankers at Tampa or Port Tampa are

usually first redistributed by rail or water to smaller wholesale tank depots conveniently located in the larger towns, whence it is finally delivered to the retailers by tank truck. Several of the oil companies already have such subdepots at Tarpon Springs and Clearwater, and a considerable tonnage of gasoline is now delivered at Tarpon Springs by water. The establishment of another depot at New Port Richey, particularly to handle only 500 tons annually, seems extremely doubtful, at least unless and until that section of the Gulf Intracoastal Waterway shall have been provided.

41. *Veneer blocks*.—About 4,000 tons of short logs for crate material (veneer blocks) are shipped annually by rail from the vicinity of New Port Richey to Manatee, Fla., at a cost of \$0.89 per ton. It is believed that all of this material could be shipped by barge at a cost of about \$0.75 per ton and that an annual saving of \$560 would thus be possible if the desired improvement were provided. It has been reported that the mills manufacturing crate materials in the Manatee section are experiencing trouble in procuring sufficient raw material at a reasonable delivered price due to high transportation costs. The resources of the New Port Richey area are said to be ample to supply this demand for the next 15 to 20 years. It may be expected, therefore, that if the desired improvement be provided, shipment of veneer blocks by water from New Port Richey to Manatee would be initiated, and that the annual tonnage would increase considerably with the reduced cost of water transportation.

42. *Cordwood*.—About 2,000 tons of cordwood are shipped annually from the vicinity of New Port Richey to St. Petersburg. The present truck rate is \$0.75 per ton. This material could be shipped by barge at a cost of approximately \$0.60 per ton, a saving of \$0.15 per ton. Owing to the nature of the collection and marketing of cordwood, however, truck deliveries are believed to be more satisfactory for this type of commerce in serving nearby areas and no movement by barge is anticipated.

43. *Limestone rock*.—Based upon statements secured from various dealers in building materials, it is estimated that about 80,000 tons of crushed limerock from Florida quarries are delivered annually to the Tampa area, practically all by rail. Of this amount, in excess of 30,000 tons are delivered to St. Petersburg, about 6,000 tons to Clearwater, and the remainder to Tampa. The present principal source of supply for Clearwater and St. Petersburg is the Brooksville area; some rock is obtained from the Ocala area. Rock now produced at New Port Richey is shipped by rail or truck to St. Petersburg, Clearwater, Tampa, and other nearby points. Due to the long water haul from New Port Richey to Tampa as compared with the shorter truck or rail distance (par. 12), the saving by barging would be small, and it is not believed that any considerable movement to Tampa would develop. The distances to Clearwater and St. Petersburg, however, are considerably shorter, and there are prospects of a substantial movement of stone to these places from New Port Richey. The present rail rates from Brooksville to Clearwater and St. Petersburg are \$0.90 and \$1.00 per ton, respectively; from New Port Richey to the same points, \$0.88 and \$0.99, respectively. It is believed, however, that this material could be moved over channels of 6-foot depth for about 8 mills per ton-mile, or about \$0.26 per ton to Clearwater and \$0.56 per ton to St. Petersburg. These reductions in costs would represent savings

per ton of \$0.62 and \$0.43, respectively, as compared to the present costs of rail transportation. It is believed that handling charges would be approximately the same for water as for rail transportation. Local dealers in building materials estimate that as much as 90 percent of the rock used in Clearwater and St. Petersburg would be secured from New Port Richey, due to lower transportation costs, if it could be barged in. This estimate appears to be too optimistic, but it is believed that at least 25 percent of the annual consumption at these ports, or 9,000 tons, would be secured from this source. Assuming that this amount would be distributed between the two points in the approximate ratio of their present annual consumption, about 1,500 tons would move to Clearwater and about 7,500 tons to St. Petersburg, at a saving of about \$4,150 per annum.

44. *Guano*.—It has been estimated by local interests that from \$1,500 to \$3,000 per annum would be saved by the guano industry if the desired improvement were provided. Under present conditions boats with barges in tow can traverse the channel at the mouth of the river only on spring tides; delays result which amount to as much as several days at times, thereby increasing the labor costs. Cargoes have at times been damaged by rain while waiting to enter the river, entailing an additional shipping cost because of the added water and a charge of \$3 to \$4 per ton for drying at Tampa. During periods when not in use, it is necessary to moor the largest boats in the Gulf opposite the mouth of the river with a resulting loss by theft of equipment reported to average \$500 per year which is not included in savings listed herein. It is estimated that at least \$0.35 per ton will be saved in the cost of transporting the guano from bird racks to storage depot, an annual saving of \$105. The existing truck rate on guano from Port Richey to Tampa is \$2 per ton, and the estimated barge rate is 80 percent of the truck rate, or \$1.60 per ton, a saving of \$0.40 per ton. For the same reasons stated for fertilizers (par. 39), however, it seems unlikely that the guano would be barged to Tampa in any event.

45. *Commercial fishing*.—The annual catch brought into New Port Richey and Port Richey is about 320,000 pounds. About 90 percent, or 290,000 pounds, is mullet. Mullet are caught in shallow waters within 2 miles of the shore by small motor launches towing a unit of 3 skiffs. The average value to the fishermen is about 4 cents per pound, or \$11,600 for the annual catch. Information could not be obtained as to the operating expenses for mullet fishing, but it is reliably stated that the average fisherman's income is from \$8 to \$10 per week over and above expenses. Fishermen state that they lose 20 to 25 percent in operating time due to having to wait for high tides. It is believed that elimination of lost operating time by provision of the improvement would enable the fishermen to catch at least 10 percent more fish at no additional operating expense, a benefit to them of about \$1,160 per annum. Approximately 1,500 tons of fish are caught annually in the waters between Anclote Key and Homosassa River, and about 750 tons in that part of the area which is closer to the mouth of the Pithlachascotee River than to any other channel. It is reasonable to expect, therefore, that provision of the desired improvement would result in the basing on the Pithlachascotee River of some new mackerel and grouper fishing boats, which operate in the deeper waters offshore, with a consequent increase in the fish

production of the locality of at least 25 percent, or 80,000 pounds per annum. At an average value of $6\frac{1}{2}$ cents a pound, this amount of fish would gross the fishermen about \$5,200. From the best information obtainable it is estimated that this type of fishing boat expends about \$70 to take \$90 worth of fish, leaving about two-ninths of the value of the fish as the benefit to the crew. The benefit from basing of additional boats at New Port Richey would thus be about \$1,150, and the total benefit to the fishing industry of the locality would be about \$2,310 per annum. While the improvement would not appreciably reduce transportation costs the increased earnings of the fishermen would be a definite local benefit.

46. *Sponging*.—Local interests believe that if the desired improvement were provided at least 15 "hooker" sponge boats would base at Port Richey. These hooker boats draw from 3 to 5 feet of water and usually do not go over 20 miles from the coast. They are operated by individuals who bring their catches to the most convenient point for shipment in much the same manner as the commercial fishermen. About 15 percent of the total value of sponges marketed annually consists of sponges brought in by hooker boats to Tarpon Springs, Port Richey, Hudson, Cedar Keys, and other communities along the coast.

47. Statistics obtained at Tarpon Springs indicate that, for 48 hooker boats basing at that point, the average operating expense, exclusive of labor, is about 49 percent of the gross value of the sponge take, leaving 51 percent as the benefit to the spongers. It is believed that provision of the improvement and the resultant elimination of 20 to 25 percent lost operating time would enable hooker boats now based on Pithlachascotee River to increase their take by at least 10 percent, or 2,000 pounds of sponge, having a gross value of \$1,600, of which about 50 percent, or \$800, may be considered as a local benefit; there would be little public benefit in reduced navigation costs. The larger diving boats draw as much as 7 feet of water and would not be able to use a 6-foot channel with any degree of regularity. Aside from this, the fact that terminals and warehouses have been established at Tarpon Springs would probably preclude the possibility of any of the larger sponge boats using Port Richey as a base. It is therefore believed that the majority of sponge boats will continue to base at Tarpon Springs or on the federally improved Steinhatchee River, which is closer to the center of the sponge beds than is New Port Richey.

48. *Facilities for health and recreation*.—It is believed that numerous tourists will be attracted on account of the excellent sport fishing grounds which the desired improvement will make available. A survey reveals that there are at least 10 hotels, apartment houses, and tourist camps that will be affected by the improvement. Estimates made by the owners of these places indicate a total annual increase in revenue for the 10 establishments of \$9,000 as a result of the improvement. Such an estimate, however, is believed to be highly speculative.

49. There are 32 persons living in New Port Richey who own pleasure boats. About half of these boats are either laid up or stored at other places, such as Tarpon Springs or Clearwater, because of the fact that their use is limited by the shoal water at the entrance to the river. Local interests assert that 8 boats will be returned and 57

additional boats, valued at \$65,000, will be brought to the river if the desired improvement is provided. It is estimated that about \$500 would be saved annually by the owners of the 8 boats which would be returned by the elimination of travel expense to and from the present bases of these boats and the saving in water distance to the fishing grounds from the Pithlachascotee River as compared to the longer distance from the present bases. The benefits to the owners of the 57 additional boats, while real, are not susceptible of a definite monetary evaluation. The average annual cost of operation and maintenance of a pleasure boat of the size which would probably be used is estimated at \$300. About \$19,500 annually would therefore be expended in the area as a result of the provision of the improvement, should as many as 57 new boats base in the river. All of the above benefits would be local in character.

50. There are at present no boats for hire operating out of New Port Richey. It is believed that at least 4 such boats would base there if the desired improvement were provided. It is probable that these boats would each make an average of 100 trips per annum carrying an average of 4 persons per trip, or 1,600 passengers per annum. It is estimated that during the tarpon fishing season, May, June, and July, 10 additional guide boats would base at New Port Richey. Each boat would probably make 60 trips during the season with an average of 3 persons per trip, making a total of 1,800 passengers. It is about 18 miles round trip by land and 20 miles by water to Tarpon Springs, the nearest point to Pithlachascotee River where charter boats are available. Assuming 4 persons to each automobile and an average cost of operation of 4 cents per mile, 3,400 passengers would save about \$612 annually in travel expense. The average cost of fuel, oil, and ice for charter boats is about 7 cents per mile. The 20-mile saving on the 600 trips estimated for boats temporarily basing at New Port Richey would therefore benefit charter boat owners to the extent of about \$840 annually.

51. Boats have been frequently damaged by grounding in the shoal water at the entrance to the river. Six boat owners report that their boats were damaged to the extent of about \$650 during 1938. It is believed that this figure, if taken as a total, would be very conservative as several other boats probably have suffered similar damages during the past year.

52. *Summary of benefits.*—Public navigational benefits estimated in preceding paragraphs are summarized in the following table:

TABLE V.—*Summary of public benefits*

Item	Tons	Saving per ton	Total saving
Veneer blocks.....	4,000	\$0.14	\$560
Crushed limestone.....	9,000	.46	4,150
Guano.....	300	.35	105
Damages.....			650
Total.....			5,465

Local benefits estimated in preceding paragraphs consist of \$2,310 increased net income to commercial fishermen, \$800 increased net income to commercial spongers, \$1,452 reduced expenses to passengers

and operators of charter boats, \$500 reduced cost of operation to 8 local pleasure-boat owners; benefits received by the community from an additional \$9,000 spent annually by tourists and \$19,500 spent annually by pleasure-boat owners; and an indeterminate benefit to residents of the area in being able to own and safely operate pleasure craft.

VESSEL TRAFFIC

53. No accurate data showing the vessel traffic in the Pithlachascotee River are available. The following table, compiled from information furnished by local interests, gives the estimated trips and drafts of vessels for the calendar year 1938:

TABLE VI.—Trips (in and out) and drafts of vessels, 1938

Draft	Motor vessels	Barges	Pleasure boats	Skiffs	Total
3 feet.....	75		20		95
2 feet.....	180	10	140		330
1 foot and under.....	100	15	450	4,500	5,065
Total.....	355	25	610	4,500	5,490

SURVEY

54. The results of the survey are shown on the map in 18 sheets, only sheet 1 of which accompanies this report. Sheets 2 through 6 show soundings to bottom, sheets 7 through 15 show the results of soundings and probings over an area extending from the mouth of the river to the minus 6-foot contour in the Gulf of Mexico, and sheets 16 through 18 show the results of probings in the river from the highway bridge at Port Richey to the mouth of the river. The materials encountered were sand, shell, and moderately hard limestone rock. From the entrance of the river to the minus 6-foot contour in the Gulf, two possible alinements for the proposed channel were investigated. The alinement involving less rock excavation, and therefore the cheaper, contains several bends as shown on the map accompanying this report. The other alinement is straight.

PLAN OF IMPROVEMENT

55. Four alternative plans of improvement, with estimates of quantities and costs, have been prepared. In all estimates side slopes of 1 vertical on 3 horizontal, and an overdepth allowance of 1 foot throughout have been used.

Plan A.—This provides for a basin 6 feet deep, 200 feet in maximum width, and 730 feet long in the river immediately downstream from the first highway bridge at Port Richey; and a channel 6 feet deep and 60 feet wide from the basin downstream to the entrance of the river, and thence along a bending route where the least amount of rock is encountered to the minus 6-foot contour in the Gulf, a total length of about 17,600 feet. The estimated cost is as follows:

216,700 cubic yards soft material at \$0.14.....	\$30,338
1,240 cubic yards rock, at \$2.50.....	3,100
Engineering and contingencies, approximately 15 percent.....	5,062
Total.....	38,500

Plan B.—This provides for a turning basin and channel of same dimensions as plan A, and following the same alinement except for a straight route from the entrance of the river to the minus 6-foot contour in the Gulf. The total length of this plan of improvement is about 16,200 feet. The estimated cost is as follows:

175,000 cubic yards soft material, at \$0.15-----	\$26, 250
22,825 cubic yards rock, at \$2-----	46, 650
Engineering and contingencies, approximately 15 percent-----	10, 800
Total-----	82, 700

Plan C.—This plan is the same as plan A except that the width of the channel from the Gulf to the basin is to be 100 feet. The estimated cost is as follows:

318,400 cubic yards soft material, at \$0.12-----	\$38, 208
2,510 cubic yards rock, at \$2.25-----	5, 648
Engineering and contingencies, approximately 15 percent-----	6, 544
Total-----	50, 400

Plan D.—This plan is the same as plan C, except that the channel follows a straight route from the entrance of the river to the minus 6-foot contour in the Gulf. The estimated cost is as follows:

224,250 cubic yards soft material, at \$0.13-----	\$29, 153
36,960 cubic yards rock, at \$2-----	73, 920
Engineering and contingencies, approximately 15 percent-----	15, 427
Total-----	118, 500

56. The highway bridge at Port Richey will require alteration to provide full use of the upper reaches of the river.

57. The estimated investment costs and annual charges for the different plans are tabulated below. In computing annual charges interest rates of $3\frac{1}{2}$ and $4\frac{1}{2}$ percent have been applied, respectively, to the Federal and non-Federal investment. These investments have been amortized in 50 years and 25 years, respectively, using interest rates stated above. The annual cost of maintenance of the basin and 60-foot channel is estimated at \$1,500 for either plan A or B. The estimate is increased to \$2,000 for plans C and D which involve 100-foot channels.

Designation of plan-----	A 60 Bend	B 60 Straight	C 100 Bend	D 100 Straight
Channel width, feet-----				
Channel alinement-----				
(a) Federal costs:				
(1) Estimated expenditure by War Department for new work-----	\$38, 500	\$82, 700	\$50, 400	\$118, 500
(2) Estimated expenditure for aids to navigation-----	5, 000	5, 000	5, 000	5, 000
(3) Total Federal investment-----	43, 500	87, 700	55, 400	123, 500
(4) Annual charges-----	3, 355	5, 239	4, 362	7, 265
(b) Non-Federal costs:				
(1) Proposed terminal and channel improvements-----	5, 000	5, 000	5, 000	5, 000
(2) Proposed alteration of bridge-----	75, 000	75, 000	75, 000	75, 000
(3) Total non-Federal investment-----	80, 000	80, 000	80, 000	80, 000
(4) Annual charges-----	5, 595	5, 595	5, 595	5, 595
(c) Total Federal and non-Federal annual carrying charges-----	8, 950	10, 834	9, 957	12, 860

SPECIAL SUBJECTS

58. It is not practicable to combine the proposed improvement with developments for water power, flood control, or other projects so as to reduce the cost to the Federal Government. The chances of

the proposed developments affecting the shore line are remote, due to the flat slope of the bottom of the Gulf and its rock formation in this area. No adverse effect has resulted from the construction of a number of other harbors in this area.

DISCUSSION AND CONCLUSIONS

59. In addition to serving the local area, the proposed development of Pithlachascotee River will, if provided, serve as a port of call and harbor of refuge for boats operating on the open Gulf between Anclote River and St. Marks. Owing to the general absence of protected waterways, numerous small pleasure and fishing craft, as well as barge and towboat traffic, move along that section of the coast in the open waters of the Gulf. They are thus exposed to the hazard of sudden storms and squalls which are frequent in that area. For the safety of such small craft adequate harbors of refuge should be available at intervals of 15 to 20 miles. A number of such harbors, natural or improved, already exist, but no such harbor is found in the 40 miles between Anclote Anchorage and Homosassa River. Between Venice and Anclote River the average distance between refuge inlets is about 6 miles; between the Homosassa and Suwannee Rivers, about 10 miles. The proposed improvement, being about 11 miles north of Anclote River, would, by its location and configuration, provide the most adequate available harbor of refuge in the section of coast between the Anclote and Homosassa Rivers.

60. Although certain claims of proponents of the improvement herein considered are believed to be overly optimistic, the evidence appears to indicate that provision of the improvement would result in considerable direct and indirect benefits to residents of the community and surrounding area and to a considerable number of winter residents and visitors from other sections of the Nation. The area has been visited by representatives of this office and the estimates of benefits are believed to be conservative. Due to the increasing consumption of concrete aggregate in the Tampa area and to the fact that quarry operators in the vicinity of New Port Richey are expanding their facilities to meet the demand, a larger movement by barge of crushed rock than was hereinbefore estimated is entirely possible. The estimated public benefits aggregate \$5,465 annually, compared to annual carrying charges to the United States under plan C of \$4,362. The tangible local benefits hereinbefore evaluated aggregate \$5,062 annually compared to annual charges to local interests of \$5,595 under any of the four plans of improvement. In addition there will be considerable local benefits from appreciation of property values and growth of business activity, which provision of the improvement would doubtless stimulate. It is believed that the local benefits will more than justify the non-Federal carrying charges assumed by local interests in connection with the improvement. If and when the Intracoastal Waterway along that section of the coast shall have been completed, it is believed that the direct benefits will be much greater.

61. A channel of less than 6-foot depth would secure to the improvement only a small portion of the benefits hereinbefore estimated and would be inadequate for a harbor of refuge, while the construction

cost would not be proportionately reduced. A channel width of not less than 100 feet is necessary for safety of navigation.

62. The division engineer concludes that the provision of a channel and basin as outlined in plan C is justified.

RECOMMENDATION

63. It is recommended that the United States provide in the Pithlachascotee River a basin 6 feet deep, 200 feet in maximum width, and 730 feet long, immediately downstream from the highway bridge at Port Richey, Fla., and a channel 6 feet deep and 100 feet wide from the basin downstream to the entrance of the river and thence following the line requiring the least rock excavation, to the 6-foot contour in the Gulf of Mexico, a total length of about 3.2 miles, at an estimated first cost of \$51,000, with \$2,000 annually for maintenance, subject to the conditions that local interests provide, maintain, and operate terminals adequate to full utilization of the improvement, open to all upon equal and reasonable terms; maintain a satisfactory channel immediately upstream from the first highway bridge; alter this bridge as may be necessary to make it suitable for navigation needs; furnish free of cost to the United States all lands required for the provision of the improvement and for the disposal of dredged material during construction and subsequent maintenance, as required; and hold and save the United States free from claims for damages resulting from the improvement.

JARVIS J. BAIN,
Colonel, Corps of Engineers,
Division Engineer.

○

